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10/572,668

09/27/2006

Daniele Fauroux

Serie 6373

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AIR LIQUIDE

Intellectual Property

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EXAMINER

PARSA, JAFAR F

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/572,668
Filing Date: September 27, 2006
Appellant(s): FAUROUX, DANIELE

Elwood L. Haynes
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 8/12/2008 appealing from the Office action mailed 4/15/2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fabian (DE 19541339).

Appellant's claimed invention is directed to a process for producing carbon monoxide by cryogenic distillation in a two-stage process. First, the mixture of carbon monoxide, hydrogen and nitrogen is cooled and partially condensed to produce a gas enriched in hydrogen and a liquid enriched in carbon monoxide. The liquid enriched in carbon monoxide is then passed through a stripping column to produce liquid carbon monoxide low in hydrogen and gaseous carbon monoxide enriched in hydrogen. The low-hydrogen carbon monoxide is fractionated, a methane-rich stream is recovered first, a carbon monoxide-rich stream second, and nitrogen, possibly containing hydrogen is recovered from the head gases.

Fabian teaches a process for producing carbon monoxide comprising:

- (1) cooling and partial condensation of a hydrogen, carbon monoxide and methane mixture containing nitrogen,
- (2) withdrawal of 1st hydrogen-rich gaseous reaction,

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- (3) charging of a $\text{H}_2\text{-CO-CH}_4\text{-N}_2$ condensate to a hydrogen stripping column,
- (4) separation of a 2nd hydrogen-rich fraction and carbon monoxide-rich fraction containing methane and nitrogen,
- (5) separation of the latter fraction in a 1st rectification column to obtain a nitrogen-rich fraction and carbon monoxide-rich fraction containing methane, and
- (6) charging of the latter fraction into a 2nd rectification column to obtain a high-purity carbon monoxide fraction and methane containing fraction. See abstract and Figure 1-3.

The difference between Fabian and the claimed invention is that the instant claims only utilize one rectification column, whereas the Fabian's process utilizes more than one rectification column. However, such modification and variations are intended to be included within the scope of the invention and it is well within the purview of one ordinary skill in the art to modify the number of rectification column, in order to reduce the capital costs and still obtaining high purity of carbon monoxide.

(10) Response to Argument

Appellant states that Fabian (DE 19541339) does not teach that the carbon monoxide-rich stream is withdrawn from second intermediate point. Also, the liquid carbon dioxide is removed from rectification column at the top and not at an intermediate point. The examiner notes the differences with respect to location of withdrawing carbon monoxide-rich stream and carbon dioxide. However theses differences are not patentably distinct in the absence of unexpected results. With

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respect to the number of rectification, examiner notes that the language of claim 9, “comprising” does not limit the number of rectification to only one column.

Furthermore, the examiner notes that applicant’s claimed invention is limited to a carbon monoxide-rich stream (step f of the instant claim 1), Fabian uses a second distillation (rectification) column, in order to produce highly pure carbon monoxide product fraction and into a fraction essentially containing methane takes place. See Figures 1-3 and page 5 steps i and k.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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